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MEDLARS[®]
The Computerized
Literature Retrieval Services
of the
National Library of Medicine

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AND HUMAN SERVICES

Public Health Service
National Institutes of Health

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The National Library of Medicine (NLM) is a part of the National Institutes of Health, one of the six health agencies of the Department of Health and Human Services' Public Health Service. The Library was established in 1836 as the Library of the Army Surgeon General's Office and it remained in the military until 1956, when it was transferred to the Department and upgraded to be the National Library of Medicine.

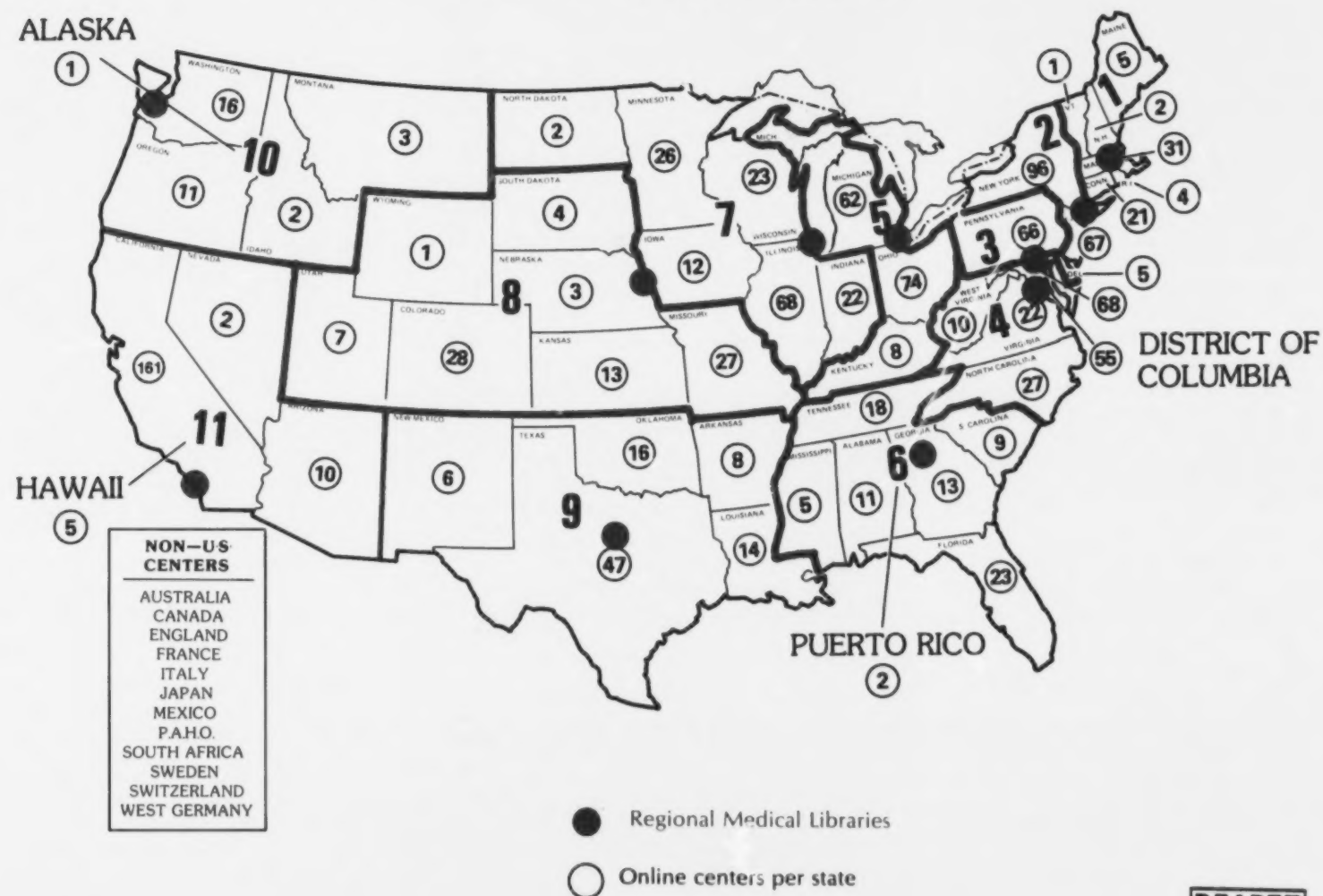
NLM is the world's largest research library in a single scientific and professional field. Its holdings include over 2,500,000 books, journals, technical reports, theses, microfilms, and pictorial and audiovisual materials. Housed in the Library is one of the nation's largest medical history collections, with contents dating from the 11th to the mid-19th century.

This brochure describes for potential users the Library's computer-based literature retrieval services. These services represent but one of the Library's many information programs for the benefit of the health community. There are also programs of grant support for medical libraries, communications research and development, toxicology information services, development of audiovisual materials for health science education, and a wide range of published bibliographies, indexes, and catalogs. For more information write to:

Office of Inquiries and Publications Management
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20209

best copy available

Online Centers with Access to NLM Data Bases



Regional Medical Libraries

Eleven Regional Medical Libraries, each responsible for a geographic area, coordinate NLM's online search services in the U.S. These libraries also handle requests for health literature not available locally, passing on to NLM requests they cannot fill. To find out the nearest Online Center, or how your institution can become a Center, write to the Regional Medical Library for your area.

- Region I** New England Regional Medical Library Service (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont)
Francis A. Countway Library of Medicine
Harvard University
10 Shattuck St., Boston, MA 02115
- Region II** New York and New Jersey Regional Medical Library
New York Academy of Medicine Library
2 E 103 St., New York, NY 10029
- Region III** Mid-eastern Regional Medical Library Service (Delaware and Pennsylvania)
Library of the College of Physicians
19 S 22 St., Philadelphia, PA 19103
- Region IV** Mid-Atlantic Regional Medical Library (District of Columbia, Maryland, North Carolina, Virginia, and West Virginia)
National Library of Medicine
8600 Rockville Pike, Bethesda, MD 20209
- Region V** Kentucky-Ohio-Michigan Regional Medical Library Program
Wayne State University
Shiffman Medical Library
4325 Brush St., Detroit, MI 48201
- Region VI** Southeastern Regional Medical Library Program (Alabama, Florida, Georgia, Mississippi, South Carolina, Tennessee, and Puerto Rico)
AW Calhoun Medical Library
Emory University, Atlanta, GA 30322
- Region VII** Midwest Regional Medical Library (Illinois, Indiana, Iowa, Minnesota, North Dakota, Wisconsin)
Library of the Health Sciences
University of Illinois at the Medical Center
1750 West Polk St.
Chicago, IL 60612
- Region VIII** Midcontinental Regional Medical Library Program (Colorado, Kansas, Missouri, Nebraska, South Dakota, Utah, and Wyoming)
Library of Medicine
University of Nebraska Medical Center
Omaha, NE 68105
- Region IX** South Central Regional Medical Library Program (Arkansas, Louisiana, New Mexico, Oklahoma, and Texas)
University of Texas Health Science Center
5323 Harry Hines Blvd., Dallas, TX 75235
- Region X** Pacific Northwest Regional Health Sciences Library (Alaska, Idaho, Montana, Oregon, and Washington)
University of Washington Health Sciences Library
Seattle, WA 98195
- Region XI** Pacific Southwest Regional Medical Library Service (Arizona, California, Hawaii, and Nevada)
Biomedical Library
Center for the Health Sciences
University of California at Los Angeles
Los Angeles, CA 90024

**READER
FICHE**

Computerized Literature Retrieval Services of the National Library of Medicine

Persons studying or working in the health sciences have access to the professional literature by means of a computerized system known as MEDLARS.* Based at the National Library of Medicine in Bethesda, Maryland, MEDLARS is available through a nationwide NLM network of centers at more than 1,300 universities, medical schools, hospitals, government agencies, and commercial organizations.

MEDLARS contains some 4,500,000 references to journal articles and books in the health sciences published after 1965. Most of these references have been published via MEDLARS in *Index Medicus* or in other printed NLM indexes and bibliographies. This same computer system also makes it possible for an individual user to search the store of references and to produce a list of them pertinent to a specific question.

*A registered acronym for Medical Literature Analysis and Retrieval System.



TERMINALS (keyboard devices that look like a typewriter) at each of the 1,300 institutions are connected via commercial networks of telephone lines to the Library's IBM 370/168 computers. To retrieve references, a user carries on a "dialog" with the computer, refining the search by typing in successive queries until the needed references are identified and printed out at the terminal. Such an "online" search, as it is called, usually takes about 10 to 15 minutes.

There are a number of online data bases available through the online network. Each is described in a section below, beginning with MEDLINE (MEDLARS online), the largest and most frequently used.

References may be retrieved by searching on one or a combination of the 14,000 designated Medical Subject Headings (MeSH®) used by NLM in indexing and cataloging materials. It is also possible to search for references by using words appearing in titles and abstracts. The computer's ability to search rapidly through a large number of references to

see which meet the specified criteria results in an individualized bibliography that would not be possible except by the most laborious and time-consuming manual search.

The requestor may ask that the complete record be printed out for each reference retrieved—including the subject headings and abstract—or that a less detailed format include only the elements necessary to locate the item: author, title, and publication source.



ARTICLES OR BOOKS identified by computer search at the online center may be requested through that institution's library. Requests for items not available locally are routed through an established network of 11 Regional Medical Libraries (see list). The National Library of Medicine provides copies or original loans of material that cannot be found in local or Regional Medical Libraries.

The online search service is available to health practitioners, researchers, educators, students—anyone faced with the

difficult task of searching through the scientific and professional literature related to health. At many online centers the librarian will do the search for the requestor; at others, users may be encouraged to do their own searches after some preliminary instruction. Complicated or difficult searches are best left to the center's specialists who have been trained in the techniques of searching.



THE CHARGE for a search varies among centers. Some absorb all or most of the costs, others levy a modest fee to recover the communication cost they incur for time connected to the NLM computers and for staff time. If a search results in an extensive bibliography that would be time-consuming (and therefore expensive) to print out at the terminal, it can be printed less expensively offline at NLM and mailed the next morning. The online center may recover the page charge for offline prints from the requestor.

Data Bases Available on the Online Network

MEDLINE contains approximately 600,000 references to biomedical journal articles published in the current and two preceding years. An English abstract, if published with the article, is frequently included. The articles are from 3,000 journals published in the U.S. and 70 foreign countries; MEDLINE also includes a limited number of chapters and articles from selected monographs. Coverage of previous periods (back to 1966) is provided by backfiles that total some 2,500,000 references.

MEDLINE can also be used to update a search periodically. The search formulation is stored in the computer and each month, when new references are added to the data base, the search is processed automatically and the results mailed from NLM.

TOXLINE* (Toxicology Information Online) is a collection of 500,000 references from the last five years on published human and animal toxicity studies, effects of environmental chemicals and pollutants, and adverse drug reactions. Older material (663,000 references) is in two TOXBACK files. Almost all references in TOXLINE have abstracts or indexing terms and most chemical compounds mentioned in TOXLINE are further identified with Chemical Abstracts Service Registry Numbers. The references are from three major published secondary sources and eight special literature collections maintained by other organizations.

CHEMLINE* (Chemical Dictionary Online) is a file of 900,000 names for chemical substances, representing 450,000 unique compounds. CHEMLINE, created by NLM in collaboration with Chemical Abstracts Service (CAS), contains such information as CAS Registry Numbers, molecular formulas, preferred chemical nomenclature, and generic and trivial names. The file may be searched by any of these elements and also by nomenclature fragments and ring structure information, making chemical structure searches possible.

RTECS (*Registry of Toxic Effects of Chemical Substances, formerly the Toxic Substances List*) is an annual compilation prepared by the National Institute for Occupational Safety and Health. RTECS contains acute toxicity data for approximately 41,000 substances. For some compounds there are also threshold limit values, recommended standards in air, and aquatic toxicity data.

TDB (Toxicology Data Bank) contains chemical, pharmacological, and toxicological information and data on approximately 2000 substances. Information on an additional 500 substances is being prepared. Data for the TDB are extracted from handbooks and textbooks and reviewed by a peer review group of subject specialists.

CATLINE* (Catalog Online) contains about 210,000 references to books and serials cataloged at NLM since 1965. CATLINE gives medical libraries in the network immediate access to authoritative cataloging information, thus reducing the need for these libraries to do their own original cataloging. Libraries also find this data base a useful source of information for ordering books and journals and for providing reference and interlibrary loan services.

SERLINE (Serials Online) contains bibliographic information for about 34,000 serial titles, including all journals which are on order or cataloged for the NLM collection. For one-fifth of these, SERLINE has locator information for the user to determine which U.S. medical libraries own a particular journal. SERLINE is used by librarians to obtain information needed to order journals and to refer interlibrary loan requests.

AVLINE (Audiovisuals Online) contains citations to some 10,000 audiovisual teaching packages used in health sciences education at the college level and for the continuing education of practitioners. All titles in AVLINE are screened for technical quality; all but lecture-type recordings are

also reviewed for currency, content accuracy, and teaching effectiveness. AVLINE may be searched by words in abstracts, medical subject headings, titles, names, source, and elements of physical description such as medium and playing time.

HEALTH PLANNING & ADMIN (Health Planning and Administration) contains about 170,000 references to literature on health planning, organization, financing, management, manpower, and related subjects. The references are from journals indexed for MEDLINE, *Hospital Literature Index*, and other journals selected for their emphasis on health care matters. This data base will eventually also contain references to nonserial items such as books and technical reports.

HISTLINE (History of Medicine Online) contains some 43,000 references to articles, monographs, symposia, and other publications dealing with the history of medicine and related sciences. This data base is the source of NLM's annual *Bibliography of the History of Medicine*. Although there are selected references back to 1964, most of the material cited in the HISTLINE file was published after 1970.

CANCERLIT (Cancer Literature), formerly called CANCERLINE, is sponsored by NIH's National Cancer Institute (NCI) and contains more than 250,000 references dealing with various aspects of cancer. All references have English abstracts. Over 3,000 U.S. and foreign journals, as well as selected monographs, meeting papers, reports, and dissertations are abstracted for inclusion in CANCERLIT.

CANCERPROJ (Cancer Research Projects), also sponsored by NCI, contains 20,000 descriptions of ongoing cancer research projects from the current and two preceding years. The descriptions are provided by cancer researchers in many countries and

are collected for NCI by the Smithsonian Science Information Exchange.

CLINPROT (Clinical Cancer Protocols) is another NCI-sponsored data base. It contains summaries of clinical investigations of new anticancer agents and treatment techniques.

BIOETHICSLINE is a file of about 11,000 references to materials on bioethical topics such as euthanasia, human experimentation, and abortion. They are selected from the literature of the health sciences, philosophy, law, religion, psychology, and from the popular media. BIOETHICSLINE is produced in cooperation with the Kennedy Institute of Ethics, Center for Bioethics, at Georgetown University.

EPILEPSYLINE is sponsored by NIH's National Institute of Neurological and Communicative Disorders and Stroke. The file contains about 37,000 references and abstracts to articles on epilepsy that have been abstracted by Excerpta Medica.

POPLINE (Population Information Online) is produced in cooperation with the Office of Population, U.S. Agency for International Development. It contains about 75,000 citations to journal articles, monographs, and technical reports in the field of population—including basic research in reproductive biology, applied research in contraceptive technology, family planning, and demography.

Two subsidiary online files that support the bibliographic data bases are the Name Authority File (an authority list of about 106,000 personal names, corporate names, and decisions on how monographic series are classed), and the MeSH Vocabulary File (information on 14,000 Medical Subject Headings—main headings and qualifiers—used for indexing and retrieving references).

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